APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
WOZNIAK, JAMES S

ART UNIT	PAPER NUMBER
2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.
10/019,550</td><td>Applicant(s)
DELEAM ET AL.</td></tr>
<tr><td>Examiner
James S. Wozniak</td><td>Art Unit
2626</td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 October 2006</u>.

2a)☒ This action is FINAL.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1 and 4-12</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1 and 4-12</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>29 March 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

       1.☒ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   In response to the office action from 5/11/2006, the applicant has submitted an amendment, filed 10/11/2006, amending claims 1 and 4-11, while adding claim 12 and arguing to traverse the art rejection based on the amended limitations *(Amendment, Pages 9-10)*. The applicant's arguments have been fully considered but are moot with respect to the new grounds of rejection, necessitated by the amendments and further in view of Shlomot et al *(U.S. Patent: 5,694,521)*.

2.   Due to the amendment of claim 1, the examiner has withdrawn the previous objections directed towards minor informalities.

3.   Due to the amendment of claims 4-11, the examiner has withdrawn the previous objections directed towards improper dependent claims.

4.   Due to the cancellation of claim 3, the examiner has withdrawn the previous objection directed towards an improper dependent claim.

Claim Objections

5.   **Claims 1 and 4-12** are objected to because of the following informalities:

In claim 1, line 9 and claim 11, line 16, it appears that "and" should be changed to --or-- because it is unclear whether the two buffer level conditions should be referred to in the alternative or can both occur simultaneously *(i.e., if the filling level lies between a first threshold and a second threshold...and...if the filling level lies between the second threshold and a third threshold).* In the case that the aforementioned limitations should be referred to in the alternative *(which appears to correspond to the specification, see Page 12, Pages 22-23)*, the examiner notes that claim 1 would constitute a single step claim corresponding to a single means (see below). In the case the current claim language is correct, the examiner notes that claims 1 and 11 would be indefinite for the below given reasons *(see 35 U.S.C. 112, second paragraph rejection).* If the applicant intends to include both of the aforementioned limitations in an alternative format, the examiner suggests a Markush group format *(for example- based on the filling level, performing one of the following selected from the group consisting of: if the filling level lies between a first threshold and second threshold, voice activity detection is implemented...; or if the filling level lies between the second threshold and a third threshold...)* *(see MPEP 2173.05(h))*, however, the examiner points out that such a claim format would still constitute a single step method with respect to claim 1.

Based on the specification *(Pages 22-23)* and the use of "and" in the present claims, the claims will be interpreted as being in such a format for the application of the prior art of record.

Claims 4-10 and 12 fail to overcome the claim objections directed towards claims 1 and

11, and thus, are also objected to due to minor informalities.

Appropriate clarification and correction is required.

Claim Rejections - 35 USC § 112

6.　　The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7.　　**Claims 1, 4-10, and 12** are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the enablement requirement. The claim(s) contains subject matter that was not

described in the specification in such a way as to enable one skilled in the art to which it pertains,

or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites a single step method for eliminating non-active frames *or* concatenating

frames based on a filling but lack means for enabling those operations.

A single means claim, i.e., where a means recitation does not appear in combination with

another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112,

first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A

single means claim which covered every conceivable means for achieving the stated purpose was

held nonenabling for the scope of the claim because the specification disclosed at most only

those means known to the inventor.). When claims depend on a recited property, a fact situation

comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for

achieving the stated property (result) while the specification discloses at most only those known

to the inventor.

Claim1 recites a single step method for a single means claim, and thus, is rejected under

35 U.S.C. 112, first paragraph.

The examiner suggests amending the claims to include a step for receiving input sound

frames and a step for comparing the filling level with at least one threshold in the body of the

claim to overcome the 35 U.S.C. 112, first paragraph rejection.

Dependent claims 4-10 and 12 do not remedy the lack of enablement issue noted above

with respect to claim 1, and therefore, are also rejected under 35 U.S.C. 112, first paragraph, as

failing to comply with the enablement requirement.

8.   **Claims 1 and 4-12** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed

invention.

Amended claims 1 and 11 recite that "if the filling level lies between the second

threshold and a third threshold" concatenation processing is implemented, wherein

"concatenation processing is implemented irrespective of the content of the frames." The

specification does not support this claimed subject matter. More specifically, the specification

notes that "action on two consecutive frames is therefore undertaken only when a frame is

detected as being non-silent" and "when both frames contain *important* information, it becomes

necessary to replace them by a single frame" *(Page 22)*. Also, it is noted by the specification

that these important frames contain "pitch information" *(Page 23)*. The specification appears to

indicate only frames containing "very little information are eliminated" *(Page 22, Line 4)* while

those frames containing important pitch-containing audio information are concatenated *(see

above)*, thus, according to the specification, the content of the frames is important in performing

concatenation. Therefore, the aforementioned claim limitation "concatenation processing is

implemented irrespective of the content of the frames" is not supported by the specification and

fails to comply with the written description requirement.

Dependent claims 4-10 and 12 do not remedy the lack of written description issue noted

above with respect to claims 1 and 11, and therefore, are also rejected under 35 U.S.C. 112, first

paragraph.

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

10.   **Claims 1 and 4-12** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claims 1 and 11 are indefinite because it is unclear whether the two buffer level

conditions are referred to as alternatives *("if the filling level... ")* or as occurring simultaneously

("and", see claim 1, line 9 and claim 11, line 16 and specification, pages 22-23).

Dependent claims 4-10 and 12 do not remedy the rejection noted above with respect to

claims 1 and 11, and therefore, are also rejected under 35 U.S.C. 112, second paragraph.

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

12.   **Claims 1 and 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Shlomot et al *(U.S. Patent: 5,699,481)* in view of Shlomot et al *(U.S. Patent: 5,694,521)*.

With respect to **Claim 1,** Shlomot *(US 5,699,481)* discloses:

A method of managing the decoding and playback of a sound signal in an asynchronous

transmission system *(buffer management in an asynchronous coded speech packet transmission*

system, Col. 4, Lines 16-36), in which method any overabundance of the filling of a buffer

memory and/or of a second buffer memory at the inlet or outlet of the decoding block is detected

by comparing the filling level with a least one threshold *(buffer at a decoder input, Fig. 1b,*

having various filling threshold levels (S, N, F), Col. 6, Lines 14-56), the method characterized in

that depending on the value of the filling level:

If the filling level lies between a first threshold and a second threshold, voice activity

detection is implemented and frames considered by said detection as being non-active are

eliminated *(deleting silence frames between slow and normal buffer levels and performing*

concatenation processing between normal and fast buffer levels, Col. 6, Lines 13- Col. 7, Line

23); and

If the filling level lies between the second threshold and a third threshold, further

processing is implemented on the frames *(further set of thresholds further process additional*

frames, Col. 7, Lines 10-23).

Although Shlomot *(US 5,699,481)* contemplates additional frame processing based on a

set of thresholds, Shlomot *(US 5,699,481)* does not specifically suggest that the further

processing comprises concatenation processing used to compact two successive frames into a

pseudo-frame having a reduction ratio greater than or equal to two, however Shlomot *(US*

5,694,521) recites a fast speech data playback method that compresses two consecutive speech

segments into a single segment, irrespective of the segment content, by a ratio greater than or

equal to 2 *(Col. 4, Line 40- Col. 5, Line 14)*.

Shlomot *(US 5,699,481)* and Shlomot *(US 5,694,521)* are analogous art because they are

from a similar field of endeavor in coded speech playback. Thus, it would have been obvious to

a person of ordinary skill in the art, at the time of invention, to modify the teachings of Shlomot

(US 5,699,481) with the segment compression means taught by Shlomot *(US 5,694,521)* in order

to achieve faster high quality playback of received speech data *(Shlomot (US 5,694,521), Col. 1,*

Lines 57-64), thus implementing a means for more quickly clearing frames out of the buffer

taught by Shlomot if a congestion occurrence persists.

With respect to **Claims 9-10**, Shlomot *(US 5,699,481)* discloses threshold adaptation

based on an additional number of received time frames during a congestion period *(Col. 7, Lines*

10-23).

13.   **Claims 4-6 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Shlomot et al *(U.S. Patent: 5,699,481)* in view of Shlomot et al *(U.S. Patent: 5,694,521)*, and

further in view of Cohen et al *(U.S. Patent: 5,825,771)*.

With respect to **Claim 4**, Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)*

teach the method for buffer control as applied to Claim 1. Shlomot *(US 5,699,481)* and Shlomot

(US 5,694,521) do not teach that buffer control includes the detection of a missing or erroneous

frame for fake frame generation, however Cohen recites a means for detecting and filling a frame

gap resulting from a missing frame *(Col. 7, Line 66- Col. 8, Line 9)*.

Shlomot *(US 5,699,481)*, Shlomot *(US 5,694,521)*, and Cohen are analogous art because

they are from a similar field of endeavor in coded audio playback. Thus, it would have been

obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings

of Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)* with the means for detecting and

filling a frame gap taught by Cohen in order to implement a means for missing packet

compensation *(Cohen, Col. 6, Lines 55-61)*.

With respect to **Claim 5**, Cohen further recites:

When the decoding block implements its decoding processing in cyclical manner relative

to the content of the first buffer memory, detection of any missing or erroneous frame or of any

absence of samples to play back is implemented at the same cyclical frequency, said detection

taking place far enough in advance relative to the decoding process to make it possible to

generate a fake frame *(detecting and decoding audio samples at a converting frequency, Col. 7,

Line 57- Col. 8, Line 9)*.

With respect to **Claim 6**, Cohen further recites:

A fake frame is not generated when a missing or erroneous frame is detected for a frame on which an absence of samples has already been detected *(removing artificial frames prior to generation at a decoder, Col. 9, Lines 21-25).*

Claim 11 contains subject matter similar to claim 1, and thus, is rejected for the same reasons. Shlomot *(US 5,699,481)* additionally recites speech playback at a speaker *(Col. 1, Lines 45-52).* Although well known in the art, Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)* do not specifically suggest the use of a playback buffer. Cohen, however, further discloses a playback buffer *(Fig. 2, Elements 15 A and B)* to ensure that an audio device always has a continuous stream to play *(Cohen, Col. 2, Lines 45-50).*

14.   **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shlomot et al *(U.S. Patent: 5,699,481)* in view of Shlomot et al *(U.S. Patent: 5,694,521),* further in view of Cohen et al *(U.S. Patent: 5,825,771),* and further in view of Chan *(U.S. Patent: 5,897,613).*

With respect to **Claim 7,** Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)* and further in view of Cohen teach the method for buffer control utilizing missing frame detection and correction as applied to Claim 4. Shlomot *(US 5,699,481)* and Shlomot *(US 5,694,521)* and further in view of Cohen do not teach the use of a previously stored frame to determine the generation of a correction frame, however, Chan recites utilizing a previous frame to determine the generation of a repeated frame *(Col. 3, Lines 31-56; and Col. 5, Lines 25-30).*

Shlomot *(US 5,699,481),* Shlomot *(US 5,694,521),* Cohen, and Chan are analogous art because they are from a similar field of endeavor in coded audio playback. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the

teachings of Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)* and further in view of

Cohen with the concept of utilizing a previous frame to determine the generation of a repeated

frame taught by Chan in order to provide a means for constant data stream generation in the case

of discontinuous transmission *(Chan, Col. 3, Lines 31-56)*.

15.   **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shlomot et al

(U.S. Patent: 5,699,481) in view of Shlomot et al *(U.S. Patent: 5,694,521)*, and further in view

of Narayan *(U.S. Patent: 5,642,466)*.

With respect to **Claim 8**, Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)*

teaches the method for buffer control utilizing speech segment combination as applied to Claim

1. Shlomot *(US 5,699,481)* and Shlomot *(US 5,694,521)* do not teach the weighting scheme for

combing speech segments as recited in claim 8, however Narayan discloses two weighting ramps

that emphasize a beginning of a first speech segment and an ending of a second speech segment

(Col. 11, Line 20- Col. 12, Line 56; and Fig. 9).

Shlomot *(US 5,699,481)*, Shlomot *(US 5,694,521)*, and Narayan are analogous art

because they are from a similar field of endeavor in audio synthesis. Thus, it would have been

obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings

of Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)* with the emphasis means taught

by Narayan in order to implement blending for discontinuity smoothing *(Narayan, Col. 11, Lines

22-30)*.

16.   **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shlomot et al

(U.S. Patent: 5,699,481) in view of Shlomot et al *(U.S. Patent: 5,694,521)*, and further in view

of Pan et al *(U.S. Patent: 5,696,875)*.

With respect to **Claim 12**, Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)*

teaches the method for buffer control utilizing speech segment combination as applied to Claim

1. Shlomot *(US 5,699,481)* and Shlomot *(US 5,694,521)* do not teach averaging combined

speech segments, however, Pan discloses a means for speech segment averaging *(Col. 4, Lines*

32-54).

Shlomot *(US 5,699,481)*, Shlomot *(US 5,694,521)*, and Narayan are analogous art

because they are from a similar field of endeavor in audio synthesis. Thus, it would have been

obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings

of Shlomot *(US 5,699,481)* in view of Shlomot *(US 5,694,521)* with the averaging means taught

by Pan in order to achieve a smoother transition between successive speech segments *(Pan, Col.*

4, Lines 32-54).

Conclusion

17.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

18.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure:

Montague et al *(U.S. Patent: 6,353,635)-* teaches a method for resolving bandwidth

conflicts by combining adjacent frames into a single frame.

Kamiya (U.S. Patent: 6,438,138)- teaches a means for time-based buffer control.

19.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632.

The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Hudspeth can be reached at (571) 272-7843. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
12/4/2006

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